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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/938,698	08/23/2001	Sashiro Uemura	96790p375	1775
8791	7590	06/28/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025			GUHARAY, KARABI	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,698

Applicant(s)

UEMURA ET AL.

Examiner

Karabi Guharay

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9,10,12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1,4,11 and 14 is/are rejected.
- 7) ☒ Claim(s) 2,5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Amendment filed on 12 April 2004 has been considered and entered.

Claim Objections

Claim 8 is objected to because of the following informalities:

Claim 8 depends from claim 7, which has been cancelled.

Further claim 8 recites "said stem". As there is no earlier recitation of stem in the claim, it is unclear as to what element the limitation is referring. There is insufficient antecedent basis for this limitation in the claim.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11, & 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Toide et al. (US 5537167).

Regarding claim 1, Toide et al. disclose a vacuum fluorescent display (CRT, see Fig 36), comprising at least one envelope (21), a cap (81 and 82 of Fig 26) made of X-ray shielding material (lines 24-28 of column 28), and supported outside the envelope so as to surround the display portion (front portion of the CRT 83) through a gap (31), the cap having a light exit surface (projection lens 28) from which the light emitted from the phosphor (though phosphor is not shown or mentioned, it is inherent in a CRT display) emerges through the display portion of the envelope, a cylindrical shaped

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bottom portion (51) to cover the display portion and a front side surface of the envelope through the gap (see Fig 46) and a cooling liquid (32) sealed in the gap (lines 62 of column 12-line 10 of column 13).

Though further limitations of a cathode electrode for emitting electrons, a grid for extracting electrons from cathode electrode, an anode electrode for accelerating the electrons are not explicitly disclosed, these are inherent for a cathode ray tube.

Regarding claim 11, Toide discloses that the envelope comprises a cylindrical glass bulb (21 of Fig 26), a circular plate (front panel portion of the envelope, though not shown clearly, it is inherent in a CRT) fixed to a front surface opening of a glass valve (funnel portion, inherent part of CRT envelope) and a glass stem (neck portion) to a rear opening of the glass valve (funnel portion) and the cylindrical bottom portion (51) covers the circular plate and the front surface of the glass valve (see Fig 26).

Regarding claim 14, Tiode et al. discloses that the envelope (21) is cylindrically shaped and at least 1/3 of the region of the front side of the envelope is covered by the cap (see Fig 26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of

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each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toide et al. as applied to claim 1 above, and further in view of Umera et al. (US 6239547).

Regarding claim 3, Toide et al. discloses all the limitations of the claim 3 except for the limitation of cathode electrode containing carbon nanotubes.

However, Umera teaches that that use of carbon nanotube for the electron emitter of a vacuum fluorescent display provides several advantages, such as carbon nano-tube emitters can emit large number of electrons and can be easily manufactured (lines 45-53 of column 2).

Thus it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate cathode electrode containing carbon nano-tube, as taught by Umera, in the device of Toide et al, since this will provide better emission of electrons.

Allowable Subject Matter

Claims 2, 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 2, prior art of record neither disclose nor suggest that the cap is made of lead glass having light transmissive properties

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Regarding claim 5, prior art of record neither teach nor suggest a front surface glass member being made of lead glass wherein the cylindrical shaped bottom of the cap is made of lead glass having light transmissive properties.

Claims 9-10 & 12-13 are allowed.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure : Mitani et al. (US 4840471);

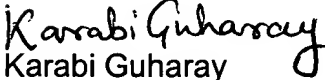
Shimizu et al. (US 6066914): Shows the basic parts of a CRT envelope.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Karabi Guharay
Patent Examiner
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